

PATENT COOPERATION TREATY

PCT


REC'D 05 MAR 2008

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference O.Z. 6361-WO		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/IB2004/002541		International filing date (day/month/year) 30.07.2004		Priority date (day/month/year) 05.08.2003
International Patent Classification (IPC) or national classification and IPC C01B33/193, C01B33/18				
Applicant DSL JAPAN CO. LTD. et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 10.11.2004		Date of completion of this report 10.08.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Werner, H Telephone No. +49 89 2399-		



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/IB2004/002541

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-29 as originally filed

Claims, Numbers

1-15 as originally filed

Drawings, Sheets

1/3-3/3 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/IB2004/002541

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-6,9,10,13-15
	No: Claims	7, 8, 11, 12
Inventive step (IS)	Yes: Claims	
	No: Claims	1-15
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item V.

1. Novelty and inventive step (Art 33(2) and (3) PCT)
 - 1.1. The following documents are referred to in this communication:
D1 : WO 01/17901 A
D2 : US 6 107 236 A
 - 1.2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 7, 8, 11 and 12 is not new in the sense of Article 33(2) PCT.
 - 1.3. Document D1 discloses (in particular: Example 2, Table 1 and Figure 2B) a method for producing amorphous porous silica particles comprising calcining silica particles at 550 °C for 10 hrs.
Therefore, the subject-matter of claim 7 is not new vis-a-vis D1.
 - 1.4. Document D2 discloses (in particular: column 7, line 61 - column 9, line 16; column 9, lines 49-65 and column 10, lines 21-29) a method for producing amorphous porous silica particles comprising calcining at 400 °C for 1 hour.
Therefore, the subject-matter of claims 7, 8, 11 and 12 is not new vis-a-vis D2.
 - 1.5. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-15 does not involve an inventive step in the sense of Article 33(3) PCT.
 - 1.6. Document D2 discloses (in particular: column 7, line 61 - column 9, line 16; column 9, lines 49-65 and column 10, lines 21-29) a method for producing amorphous porous silica particles similar to the process described in example 1 of the present application. The silica particles are spray dried and heat treated at 400 °C for 1 hour. The mean pore peak radius is 3-12,5 nm.
D2 does not disclose the oil absorption or the $dV_p/d\log R_p$ value for the silica. However, since the method for producing the silica in the present application (example 1) and in D2 are similar, it could be expected that the resulting silica have about the same physical features.
Hence, the subject-matter of claims 1-6, 9 and 10 does not seem to involve an inventive step vis-a-vis D2.

- 1.7. Document D1 discloses (in particular: Example 2, Table 1 and Figure 2B) amorphous porous silica particles having a $dV_p/d\log R_p$ maximum value of $>>1000\text{mm}^3/\text{nmg}$ and a pore peak radius when the $dV_p/d\log R_p$ value is maximum of 3,5 nm (calculated from fig. 2B). D1 does not disclose the oil absorption for the silica. However, since the pores in the silica disclosed in D1 are very similar to the pores in the silica of the present application, it could be expected that the silica in D1 have about the same oil absorption as for the silica in the present application. Therefore, the subject-matter of claim 1 does not seem to involve an inventive step vis-a-vis D1.
- 1.8. The subject-matter of claims 13-15 claim conventional uses for porous, amorphous silica and are not associated with any special technical effect that would justify inventiveness.

Re Item VII.

2. Claim 15 is erroneously given the number 13.